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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/663,037

Applicant(s)

NAIR ET AL.

Examiner

JUNIOR O. MENDOZA

Art Unit

2423

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,7-9,12,17-19,21-25,41-47 and 51-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7-9,12,17-19,21-25,41-47 and 51-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-840)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to independent claim 1 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 08/13/2009 with respect to independent claim 23 have been fully considered but they are not persuasive.

Regarding **claim 5**, applicant argues that Delpuch does not teach "accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations corresponding to the stored video stream, the pre-calculated resource estimated based on worst case condition for one or more factors".

However, the examiner respectfully disagrees with the applicant. Delpuch clearly discloses determining the amount of storage available and the amount of storage required to transcode a video content to its highest quality; paragraphs [0035] [0037] figure 6. More specifically, paragraph [0037] teaches that the level of compression can be automatically determined based on predetermined factors such as the amount of storage available; where the amount of storage available can reasonably be interpreted as a resource estimate. Moreover, it is clear that the storage available calculation is done prior to the transcoding step, since said calculation is needed in order to determine the transcoding factor for the content.

Therefore, Delpuch clearly discloses "accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations corresponding to the stored video stream, the pre-calculated resource estimated based on worst case condition for one or more factors".

Regarding **claim 23**, applicant argues that O'Donnel and Delpuch do not teach "an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream".

However, the examiner respectfully disagrees with the applicant. Delpuch discloses that the received content is previously encoded by the headend (See paragraphs [0022] [0025]) where the receiver further compresses the received encoded content. In other words, the receiver performs further compression or data reduction to the incoming data stream in order to reduce the amount of storage required to store content, paragraph [0012]. As it is well known in the art, MPEG re-compression requires the implementation of an encoder as described on paragraph [0029] (See Pat. No 5,889,561 - Incorporated by reference in its entirety by Delpuch). Therefore, Delpuch clearly discloses "an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream".

Regarding **claims 45 and 8**, applicant argues that Kaneko does not teach "a plurality of completion times for non-real time operations".

However, the examiner respectfully disagrees with the applicant. Kaneko discloses that it is possible to perform re-compression of content within different free time periods; where the re-compression process stops at the end of each time period interval before the receiver becomes active again, col. 15 lines 6-28. In other words, Kaneko discloses a plurality of end times, e.g. completion times, where re-compressing control unit 554 issues a stop re-compression command for non-real time operations. The examiner points out that the claimed feature does not differentiate over a single re-compression taking place over several intervals, as taught by Kaneko, and a single recompression taking place in a single interval; since the claimed feature simply states a plurality of completion times for non-real time operations. Therefore, the re-compression operation end times of Kaneko clearly read on "a plurality of completion times for non-real time operations".

Regarding **claims 9, 17, 18, 25, 46, 51 and 52**, applicant argues that O'Donnel, Delpuch in view Masukura is not an obvious combination.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of O'Donnel, Delpuch in view

Kaneko. However, there is no requirement that a motivation to make the modification be expressly articulated in the references. The test for combining references in what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art; since, references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In this case, as admitted by the applicant O'Donnel and Delpuch deal with the recompression of content in order to reduce the space that a file would take in a storage device; nonetheless, the conversion of MPEG-2 to MPEG-4 of Masukura also yields the benefit of creating a smaller, more compressed file which takes less space in a storage device and provide compatibility with other devices (See paragraph [0005] of O'Donnel). Therefore, it would have been obvious to one of ordinary skill in the art to combine known techniques to improve a re-compression system for a predictable result of creating files which take less space in a storage device.

Regarding **claims 22 and 55**, applicant argues that O'Donnel, Delpuch in view Kaars is not an obvious combination.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of O'Donnel, Delpuch in view Kaneko. However, there is no requirement that a motivation to make the

modification be expressly articulated in the references. The test for combining references in what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art; since, references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In this case, as admitted by the applicant O'Donnel and Delpuch deal with the recompression of content in order to reduce the space that a file would take in a storage device; nonetheless, the transcoding of formats in Kaars also yields the benefit of creating a smaller, more compressed file which takes less space in a storage device and provide compatibility with other devices as disclosed on paragraph [0006] lines 13-16. Therefore, it is obvious to combine known techniques to improve a re-compression system for a predictable result of creating files which take less space in a storage device.

Claim Objections

3. **Claim 1** is objected to because of the following informalities: claim 1 recites the limitation "a second video stream" in lines 10-11. It is uncertain whether the mentioned "a second video stream" in lines 10-11 refers to the previously mentioned "a second video stream" in line 6 or to a completely different stream.

However, it seems that "a second video stream" in lines 10-11 should be "a second compressed video stream"; therefore, the examiner will examine that claimed feature under this interpretation.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claim 1** is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claims are neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process.

The method including steps of transcoding a video stream are not tied to any particular device; since the method just claims the "capability" of transcoding, the claim does not require the video stream to be received and processed by any equipment.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claim 58** recites the limitation "the portion" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 63** recites the limitation "the transport stream" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 63 recites the limitation "the compressed pictures" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. As it is unclear whether this feature refers to the compressed plural digitized pictures of claim 23.

Claim 63 recites the limitation "the compressed second plural digitized" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 63 recites the limitation "the second format" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 63 recites the limitation "the first format" in line 6. There is insufficient antecedent basis for this limitation in the claim.

9. **Claim 65** recites the limitation "the first and the second formats" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 65 recites the limitation "the transcoded portion" in line 4. There is insufficient antecedent basis for this limitation in the claim.

10. **Claim 68** recites the limitation "the transport stream" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 68 recites the limitation "the multiplexer" in line 3. There is insufficient antecedent basis for this limitation in the claim.

The examiner notes that claims 63, 65 and 68 could depend from claim 62 in order to alleviate some but not necessarily all of the antecedence problems listed above.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1, 2, 5, 7 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Artigas et al. (Pub No US 2001/0014206) in view of O'Donnel (Pub No US 2002/0071663) further in view of Delpuch (Pub No US 2004/0055020). Hereinafter, referenced as Artigas, O'Donnel and Delpuch, respectively.

Regarding **claim 1**, Artigas discloses a method comprising the steps of:
receiving plural video streams corresponding to a first format and a second
format different than the first format (Paragraph [0040] and figure 1);

encoding (encoders 3) in parallel plural digitized pictures of a first picture
sequence corresponding to a first video stream of the plural received video streams and
a second picture sequence corresponding to a second video stream of the plural
received video streams to produce a transport stream (Paragraph [0040] and figure 1;
multiple analog tuners to receive and record multiple channels in parallel)

comprising a multiplex of a corresponding first compressed video stream and a
second compressed video stream, respectively (Paragraph [0040] and figure 1;
converting analog signals into digital signals and then compressing and multiplexing
received streams),

the first and second video streams having the first format (Paragraph [0040] and
figure 1; analog format)

and the first and second compressed video streams having the second format
(Paragraph [0040] and figure 1; digitized and compressed format);

storing the transport stream in a storage device (Paragraph [0040] and figure 1;
storing multiplexed content in recording apparatus 4).

However, it is noted that Artigas fails to explicitly disclose a method comprising
the steps of: determining whether the encoded pictures of the compressed video
streams are video stream is to be transcoded according to a first operating mode or a
second operating mode relative to producing the video stream, the determination based

on availability of processing resources, wherein the first operating mode is implemented in non-real time and the second operating mode is implemented in real-time, and transcoding at least a portion of the compressed video stream according to either the first operating mode or the second operating mode responsive to a determination regarding the sufficiency of processing resources.

Nevertheless, in a similar field of endeavor O'Donnel discloses a method comprising the steps of: determining whether the encoded pictures of the compressed video streams are video stream is to be transcoded according to a first operating mode or a second operating mode relative to producing the video stream, the determination based on availability of processing resources (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources),

wherein the first operating mode is implemented in non-real time (Paragraphs [0018] and [0019] and fig 4 and 6; high compression in non-real time when receiver is "offline")

and the second operating mode is implemented in real-time (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time);

and transcoding at least a portion of the compressed video stream according to either the first operating mode or the second operating mode responsive to a determination regarding the sufficiency of processing resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of implementing a transcoding algorithm which allows the further compression of content in a recording device (O'Donnel – paragraph [0009]).

However, it is noted that Artigas and O'Donnel fails to explicitly disclose encoding plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream; and storing the video stream in a storage device.

Nevertheless, in a similar field of endeavor Delpuch discloses real-time and/or non-real time transcoding system which may depend on the receiver's processing capabilities (Paragraphs [0023] [0024]),

encoding plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream (Paragraphs [0022] [0025] and figure 1; received video data is encoded by headend);

storing the video stream in a storage device (Paragraph [0012]; content is stored within the client).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas and O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of implementing a system which allows the recording of data at a user's receiver for later playback,

where said recording allows an efficient tradeoff between image quality and storage needed.

Regarding **claim 2**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; moreover, Artigas discloses that the method is implemented by a television system (Paragraphs [0002] [0006] figure 1).

However, it is noted that Artigas fails to explicitly disclose that the method is implemented by a television set-top terminal.

Nevertheless, in a similar field of endeavor O'Donnel discloses that the method is implemented by a television set-top terminal (Paragraph [0018]; CVA 2 may consist of a stand alone television set top box).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of implementing well known television receiver system which allows the viewers to effectively watch and record content.

Regarding **claim 5**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding according to the first mode is in non-real time and the transcoding according to the second mode is in real-time, the determination of which mode to execute further based on the availability of resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6; received video stream gets

fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that Artigalas and O'Donnel fail to explicitly disclose the steps of accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations corresponding to the stored video stream, the pre-calculated resource estimates based on worst case conditions for one or more factors, the transcoding is determined with respect to the pre-calculated resources.

Nevertheless, in a similar field of endeavor Delpuch discloses the steps of accessing pre-calculated resource estimates corresponding to compressing, decompressing, or a combination of both tasks pertaining to transcoding operations corresponding to the stored video stream, the pre-calculated resource estimates based on worst case conditions for one or more factors (Paragraphs [0035] [0037] figure 6; determining the amount of storage available and the amount of storage required to transcode a content to its highest quality),

and the transcoding is determined with respect to the pre-calculated resources (Paragraphs [0035] [0037] figure 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas and O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point.

Regarding **claim 7**, Artigalas, O'Donnel and Delpuch disclose the method of claim 5; however, it is noted that Artigalas and O'Donnel fail to explicitly disclose that the one or more factors includes one or more of video compression specification, picture size, picture rate, or time factor.

Nevertheless, in a similar field of endeavor Delpuch discloses that the one or more factors includes one or more of video compression specification, picture size, picture rate, or time factor (Paragraphs [0035] [0037] figure 6; determining the amount of storage available and the amount of storage required to transcode a content to its highest quality).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas and O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point.

Regarding **claim 12**, Artigalas, O'Donnel and Delpuch disclose the method of claim 1; however, it is noted that Artigalas fails to explicitly disclose that the processing resources comprise one or more of an instruction execution resource, bus bandwidth, memory capacity, storage capacity, and or access to storage capacity.

Nevertheless, in a similar field of endeavor O'Donnel discloses that the processing resources comprise one or more of an instruction execution resource, bus

bandwidth, memory capacity, storage capacity, and or access to storage capacity (Paragraphs [0018] [0019] and [0021]; set top box's storage capacity).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point.

13. Claims 8, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Artigalas in view of O'Donnel in view of Delpuch further in view of Kaneko et al (Patent No US 6,671,454). Hereinafter, referenced as Kaneko.

Regarding **claim 8**, Artigalas, O'Donnel and Delpuch disclose the method of claim 7; moreover, O'Donnel discloses performing different operations in non-real time if sufficient off-line time is available (Paragraph [0019]).

However, it is noted that Artigalas, O'Donnel and Delpuch fail to explicitly disclose a time factor which provides a plurality of completion times for operations.

Nevertheless, in a similar field of endeavor Kaneko discloses a time factor which provides a plurality of completion times for operations (Col. 14 lines 59-67, col. 15 lines 1-29 and figure 16; transcoding operations are scheduled in consideration of free time

periods where the transcoding completion period is chosen based on whether the process can be completed before the receiver becomes active again).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Kaneko, for the purpose of evaluating the resources needed in order to perform a transcoding operation based on the resources a receiver device has to offer at a given point, allowing transcoding to take place during idle times using the receiver's resources quite effectively.

Regarding **claim 19**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; however, it is noted that Artigas, O'Donnel and Delpuch fail to explicitly disclose the step of: monitoring consumption of the processing resources over an extended time period for different time intervals for respective operations that are currently executing and scheduled to be executed at a future time.

Nevertheless, in a similar field of endeavor Kaneko discloses the step of: monitoring consumption of the processing resources over an extended time period for different time intervals for respective operations that are currently executing and scheduled to be executed at a future time (Col. 14 lines 59-67, col. 15 lines 1-17 figure 16; monitoring for free time periods).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Kaneko, for the purpose of

evaluating and calculating the best times for a re-compression process to take place without introducing any inconveniences to the user.

Regarding **claim 21**, Artigalas, O'Donnel, Delpuch and Kaneko disclose the method of claim 19; however, it is noted that Artigalas fails to explicitly disclose the step of monitoring consumption of the processing resources comprises monitoring user input.

Nevertheless, in a similar field of endeavor O'Donnel discloses the step of monitoring consumption of the processing resources comprises monitoring user input (Paragraph [0021]; monitoring on-line operation initiation or resumed use command of device because of user input, which halts the recompression process).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of evaluating and calculating the best times for a re-compression process to take place without introducing any inconveniences to the user.

14. **Claims 9, 17, 18 and 56 – 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Artigalas in view of O'Donnel in view of Delpuch further in view of Musukura et al (Pub No2003/0001964). Hereinafter, referenced as Musukura.**

Regarding **claim 9**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses transcoding according to the first operating mode (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time).

However, it is noted that Artigas, O'Donnel and Delpuch fail to explicitly disclose that transcoding is implemented according to a second video specification different than the first video specification video.

Nevertheless, in a similar field of endeavor Musukura discloses that transcoding is implemented according to a second video specification different than the first video specification video (Paragraph [0035]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claim 17**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses transcoding according to the second operating mode (Paragraphs [0018] and [0019] and figure 2; offline compression).

However, it is noted that Artigas, O'Donnel and Delpuch fail to explicitly disclose that transcoding is according to the first video specification.

Nevertheless, in a similar field of endeavor Musukura discloses that transcoding is according to the first video specification (Paragraph [0035]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claim 18**, Artigalas, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses that the transcoding system lowers the bit-rate for stored material (Paragraph [0020]);

a first operating mode and a second operating mode (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that Artigalas, O'Donnel and Delpuch fail to explicitly disclose a transcoding system with a first bit rate and a second bit rate different than the first bit rate.

Nevertheless, in a similar field of endeavor Musukura discloses a transcoding system with a first bit rate and a second bit rate different than the first bit rate (Paragraphs [0042] [0049]; changing encoding parameters such as the bit rate of video data).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically

providing the elements mentioned above, as taught by Musukura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claim 56**, Artigalas, O'Donnel and Delpuch disclose the method of claim 1; moreover, Artigalas discloses accessing in parallel the first and second compressed video streams, decompressing in parallel the encoded pictures of the first and second compressed video streams (Paragraph [0042]; reading and accessing a recorded stream by decompressing and demultiplexing in order to reproduce the separate program in parallel).

However, it is noted that Artigalas fails to explicitly disclose that transcoding comprises compressing the first compressed video stream according to the second format at a reduced bit rate

Nevertheless, in a similar field of endeavor O'Donnel discloses that transcoding comprises compressing the first compressed video stream according to the second format at a reduced bit rate (Paragraphs [0019] [0018]; re-compress content at a lower bit rate implementing MPEG technology, i.e. MPEG-2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of allowing the receiver to be able to efficiently and easily perform further compression without the need of high computational resources.

However, it is noted that Artigalas, O'Donnel and Delpuch fail to explicitly disclose compressing a second compressed video stream according to a third format different than the first and second formats.

Nevertheless, in a similar field of endeavor Masukura discloses compressing a second compressed video stream according to a third format different than the first and second formats (Paragraphs [0035] [0042]; converting MPEG-2 to MPEG-4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claim 57**, Artigalas, O'Donnel, Delpuch and Musukura disclose the method of claim 56; moreover, Artigalas discloses that the first format corresponds to analog video (Paragraph [0040]; analog video stream inputs) and video compression specification (Paragraphs [0040] [0042]).

However, it is noted that Artigalas fails to explicitly disclose the second format which corresponds to a different video compression specification.

Nevertheless, in a similar field of endeavor O'Donnel discloses the second format which corresponds to a different video compression specification (Paragraph [0018]; MPEG compressed content).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas by specifically providing the elements mentioned above, as taught by O'Donnel, for the purpose of implementing a compression technique which provides reasonable compression at a moderate computational complexity.

However, it is noted that Artigas, O'Donnel and Delpuch fails to explicitly disclose that the second and third formats correspond to different video compression specifications.

Nevertheless, in a similar field of endeavor Masukura discloses that the second and third formats correspond to different video compression specifications (Paragraphs [0035] [0042]; recompressing content by converting MPEG-2 content to MPEG-4 content).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of implementing a standard which provides significantly greater compression.

Regarding **claim 58**, Artigas, O'Donnel, Delpuch and Musukura disclose the method of claim 1; moreover, O'Donnel discloses that transcoding comprises accessing the first compressed video stream, decompressing the video, and compressing the decompressed video, and storing the transcoded video in the storage device (Paragraph [0019] figure 4).

However, it is noted that Artigalas, O'Donnel and Delpuch fails to explicitly disclose accessing a portion of a video stream, decoding the portion, and converting the decoded portion according to a third format different than the first and second formats, and storing the transcoded portion having the third format in the storage device.

Nevertheless, in a similar field of endeavor Masukura discloses accessing a portion of a video stream, decoding the portion, and converting the decoded portion according to a third format different than the first and second formats (Paragraphs [0008] [0088] [0089] figure 8; re-compressing portions of a video into MPEG-4 standard, different from an analog standard or a MPEG-2 standard),

and storing the transcoded portion having the third format in the storage device (Paragraph [0087] figure 8; converted video storage 805).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of implementing a standard which provides significantly grater compression for parts of a video content.

Regarding **claim 59**, Artigalas, O'Donnel, Delpuch and Musukura disclose the method of claim 58; moreover, O'Donnel further discloses accessing and decompressing the transcoded first compressed video stream and presenting as decompressed pictures for display (Paragraph [0018] figure 3).

However, it is noted that Artigalas, O'Donnel and Delpuch are silent to disclose decompressing the transcoded portion and non-transcoded portions of the first compressed video stream and presenting for display.

Nevertheless, in a similar field of endeavor Masukura discloses presenting the transcoded portion and non-transcoded portions of the first compressed video stream and presenting for display (Paragraphs [0043] [0090] [0117]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically presenting transcoded portions and non-transcoded portions of a video stream, as taught by Musukura, for a predictable result of allowing a display device to present video content to a user regardless of the standardization of different video portions, by decompressing a content which has been partially transcoded (Musukura - Paragraphs [0008] [0088] [0089]).

Regarding **claim 60**, Artigalas, O'Donnel, Delpuch and Musukura disclose all the limitations of claim 60; therefore, claim 60 is rejected for the same reasons stated in claim 57.

15. **Claims 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Artigalas in view of O'Donnel in view of Delpuch further in view of Kaars (Pub No US 2003/0066084). Hereinafter, referenced as Kaars.

Regarding **claim 22**, Artigas, O'Donnel and Delpuch disclose the method of claim 1; moreover, O'Donnel discloses determination of a transcoding mode (Paragraphs [0018] [0019] and [0021] figures 2, 3).

However, it is noted that Artigas, O'Donnel and Delpuch fail to explicitly disclose transcoding based on one or more characteristics of the video stream.

Nevertheless, in a similar field of endeavor Kaars discloses transcoding based on one or more characteristics of the video stream (Paragraphs [0005] [0025]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Kaars, for the purpose of allowing the receiver to be able to receive and support different types of signal inputs, regulating its operation based on said input signal.

16. **Claims 23, 24, 41 – 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch.**

Regarding **claim 23**, O'Donnel discloses a set-top terminal (STT) (Paragraph [0018] figure 1) comprising:

determine logic configured to determine whether the video stream is to be transcoded according to a first operating mode or a second operating mode relative to producing the video stream, the determination based on availability of processing

resources (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources);

and transcode logic configured to transcode the video stream according to either the first operating mode or the second operating mode responsive to a determination regarding the sufficiency of processing resources (Paragraphs [0018] [0019] and [0021] figures 2, 3 and 6).

However, it is noted that O'Donnel fails to explicitly disclose an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream.

Nevertheless, in a similar field of endeavor Delpuch discloses real-time and/or non-real time transcoding system which may depend on the receiver's processing capabilities (Paragraphs [0023] [0024]),

an encoder configured to compress plural digitized pictures of a picture sequence according to a first video compression specification to produce a video stream (Paragraphs [0022] [0025] and figure 1; received video data is encoded by headend).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel by specifically providing the elements mentioned above, as taught by Delpuch, for the purpose of implementing a system which allows the recording of data at a user's receiver for later playback, where said recording allows an efficient tradeoff between image quality and storage needed.

Regarding **claim 24**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the first operating mode corresponds to a higher compression rate than the second operating mode (Paragraphs [0019] [0020]).

Regarding **claim 41**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the STT is integrated in a subscriber television system (Paragraph [0018] figure 1).

Regarding **claim 42**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses that the first operating mode is implemented in non-real time (Paragraphs [0018] and [0019] and fig 4 and 6; high compression in non-real time when receiver is "offline");

and the second operating mode is implemented in real-time (Paragraphs [0018] and [0019] and figure 2; fast compression in real-time).

Regarding **claims 43, 44 and 47**, O'Donnel and Delpuch disclose all the limitations of claims 43, 44 and 47; therefore, claims 43, 44 and 47 are rejected for the same reasons stated in claims 5, 7 and 12, respectively.

17. **Claims 25, 46, 51, 52 and 63 – 67** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Musukura.

Regarding **claim 25**, O'Donnel and Delpuch disclose the STT of claim 23; moreover, O'Donnel discloses a first operating mode and a second operating mode (Paragraphs [0018] [0019] and [0021] also exhibited on figures 2, 3 and 6; received video stream gets fast compressed in real-time or high compress in non-real time when receiver is "offline" based on system resources).

However, it is noted that O'Donnel and Delpuch fail to explicitly disclose a transcoding system with a second mode corresponding to an MPEG-2 video compression specification and a first mode corresponds to an H.264 video compression specification.

Nevertheless, in a similar field of endeavor Musukura discloses a transcoding system with a second mode corresponding to an MPEG-2 video compression specification and a first mode corresponds to an H.264 video compression specification (Paragraphs [0035] [0042]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Musukura, for the purpose of converting video from one format to another, allowing more compression and in consequence administrating storage space more effectively.

Regarding **claims 46, 51 and 52**, O'Donnel, Delpuch and Musukura disclose all the limitations of claims 46, 51 and 52; therefore, claims 46, 51 and 52 are rejected for the same reasons stated in claims 9, 17 and 18, respectively.

Regarding **claims 63 – 67**, O'Donnel, Delpuch and Musukura disclose all the limitations of claims 63 – 67; therefore, claims 63 – 67 are rejected for the same reasons stated in claims 56 - 60, respectively.

18. **Claims 45, 53 and 54** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Kaneko.

Regarding **claims 45, 53 and 54**, O'Donnel, Delpuch and Kaneko disclose all the limitations of claims 45, 53 and 54; therefore, claims 45, 53 and 54 are rejected for the same reasons stated in claims 8, 19 and 21, respectively.

19. **Claim 55** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Kaars.

Regarding **claim 55**, O'Donnel, Delpuch and Kaars disclose all the limitations of claim 55; therefore, claim 55 is rejected for the same reasons stated in claim 22.

20. **Claim 61** is rejected under 35 U.S.C. 103(a) as being unpatentable over Artigalas in view of O'Donnel in view of Delpuch further in view of Zimmerman (Pub No US 2003/0147631). Hereinafter, referenced as Zimmerman.

Regarding **claim 61**, Artigalas, O'Donnel and Delpuch disclose the method of claim 1; however, it is noted that Artigalas, O'Donnel and Delpuch fail to explicitly encoding audio corresponding respectively to the first and second video streams and multiplexing the encoded audio in the transport stream.

Nevertheless, in a similar field of endeavor Zimmerman discloses encoding audio corresponding respectively to the first and second video streams and multiplexing the encoded audio in the transport stream (Paragraph [0048] figure 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Artigalas, O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Zimmerman, for the purpose of storing video and audio together which allows a simpler management of content.

21. **Claim 62** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Artigalas.

Regarding **claim 62**, O'Donnel and Delpuch disclose the STT of claim 23; however, it is noted that O'Donnel and Delpuch fail to explicitly disclose that the

encoder is further configured to: receive, in parallel to the plural digitized pictures, second plural digitized pictures of a second picture sequence and compressed pictures, the received pictures corresponding to a first format; and further compress, in parallel to the plural digitized pictures of the picture sequence, the second plural digitized pictures of the second picture sequence to produce, in association with the multiplexer, a transport stream comprising a multiplex of the video stream and the compressed second plural digitized pictures, the transport stream pictures corresponding to a second format different than the first.

Nevertheless, in a similar field of endeavor Artigas discloses that the encoder (encoders) is further configured to: receive, in parallel to the plural digitized pictures, second plural digitized pictures of a second picture sequence and compressed pictures, the received pictures corresponding to a first (analog format) format (Paragraph [0040] and figure 1; multiple analog tuners to receive and record multiple channels in parallel; converting analog signals into digital signals and then compressing and multiplexing received streams);

and further compress, in parallel to the plural digitized pictures of the picture sequence, the second plural digitized pictures of the second picture sequence to produce, in association with the multiplexer (Paragraph [0040] and figure 1; converting analog signals into digital signals and then compressing and multiplexing received streams),

a transport stream comprising a multiplex of the video stream and the compressed second plural digitized pictures, the transport stream pictures

corresponding to a second format different than the first (Paragraph [0040] and figure 1; digitized and compressed format).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify O'Donnel and Delpuch by specifically providing the elements mentioned above, as taught by Artigas, for the purpose of allowing a receiver to receive and record different signals simultaneously (Artigas - paragraph [0040]).

22. **Claim 68** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnel in view of Delpuch further in view of Zimmerman.

Regarding **claim 68**, O'Donnel, Delpuch and Zimmerman disclose all the limitations of claim 68; therefore, claim 68 is rejected for the same reasons stated in claim 61.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUNIOR O. MENDOZA whose telephone number is (571)270-3573. The examiner can normally be reached on Monday - Friday 9am - 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571)272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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November 18, 2009

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